

## ABSTRACT:

An optical input device for an apparatus, generating input signals by moving the device and an object (15) relative to each other and measuring the movement by means of the effects of self-mixing in a diode laser (3,5) and Doppler shift caused by the movement. For each measuring axis (X,Y,Z) radiation from a diode laser (3,5) is converged on a window (12) across which the object (15) moves. Part of the radiation scattered by the object, whose frequency is Doppler-shifted due to the movement, re-enters the laser cavity (20) and causes a change in cavity properties. By measuring such a change, for example by means of a photo diode, information about the movement is obtained. As the input device is small and cheap, it can be used in a number of different consumer apparatus.

Fig.1

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